CHARLES DARWIN UNIVERSITY

ETL123

Tutorial 2

Discussion questions

1. On page 14 Van de Walle states "Every idea introduced in the mathematics classroom can and should be understood by every child. There are no exceptions!" What is your reaction to this challenging statement?
2. How do the ideas of Skemp (relational and instrumental understanding) and Wiliam, Askew et.al. (connectionist teachers) fit with Van de Walle's ideas about constructivist and sociocultural theories of learning?
3. On page 14 Van de Walle lists 15 verbs that describe the process of doing mathematics. How do these relate to the proficiency strands in the National Curriculum, or the proficiencies from *Adding It Up* (page 25). Note: the proficiency strands in the National Curriculum were based on those in *Adding It Up.*

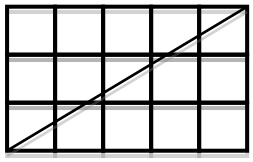
Investigations (see assignment 1 for a brief discussion of the process of conducting a mathematical investigation). Share your ideas on the Discussion Board.

1. Consecutive sums

Do question 1 under For Discussion and Exploration on p30 of Van de Walle. Extend it.

2. Cracking tiles

If a 3×5 rectangle is cracked in a straight line from corner to corner the crack goes through 7 tiles.
Investigate.



3. Walking up stairs

When I walk up stairs I either walk one step at a time or two steps at a time. So I can walk up a flight of three stairs in 3 ways: 1, 1, 1 or 1, 2 or 2, 1.
Investigate.

4. Unit fractions

A unit fraction has a numerator of 1. Some unit fractions can be added to give another unit fraction. For example $\frac{1}{3}+\frac{1}{6}=\frac{1}{2}$.

Investigate.

Fermi problems (see assignment 1 for a brief discussion of the process of conducting a Fermi problem). Share your ideas on the Discussion Board.

1. How many people could fit into a standard school classroom?
2. How many people in Australia are doing mathematics right now?
3. How long would it take to count to one million?
4. How many jellybeans would fit in a 1 litre jar?